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## DISCOVERIES AND CURRENT EVENTS *

### French North Africa: Locust Invasions during the First Half of the Year 1935 (1).

The hatching of Moroccan Locusts (*Dociostaurus maroccanus*) was reported in Algeria in the first days of April, 1935, in the following regions:—

Oran Department:—

Sfissef Douar, Mixed Commune of Mekerra.
Hounet and Aïoun el Beranis Douars, Mixed Commune of Saïda.
Aïn Tiddès and Tagremaret Regions, Mixed Commune of Frenda.

Algiers Department:—

Zahrez Chergui Region, Mixed Commune of Aïn-Boueif.
Ouled Ahmeur Douar, Mixed Commune of Bou Saâda.
Aziz, Boughzoul, and M'Fatah Douars, Mixed Commune of Boghari.
Oussera Douar, Mixed Commune of Chellala.

In general, the hopper groups reported were composed of a few individuals and did not show any definite gregarious characteristics except in the different outbreak centres in the Algiers Department.

It was endeavoured, during the month of April and May, 1935 to follow the life cycle of the locusts everywhere and to ascertaining the smallest signs of gregarious nature which were controlled by poisoned baits.

The search for and inspection of larval bands was entrusted to young men who had finished their fairly advanced scientific studies (' Ingenieur ' of the Agricultural Institut of Algiers for the most part) and who at the same time had made observations of a biological nature.

The system of scouting adopted has proved to be very efficient and at the same time permits the first manifestations of a gregarious nature to be noted in the Constantine Department (Barika, Bélezma, Aïn M'Lila Regions).

* Under this and the next heading the countries are arranged in French alphabetical order.

(1) Communication from the Government General of Algeria, Direction des Services économiques to the International Institute of Agriculture.

In this way all the hopper groups have been broken up. The fugatives and individuals arrived at the adult stage are at present under observation in order to determine the exact outbreak centres and thereby the areas to be closely observed the following year.

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From 1 October, 1934, to 1 July, 1935, French North Africa has been completely free from all invasions by Desert Locusts (*Schistocerca gregaria*).

**French West Africa: Diseases of Plants Cultivated in the Ivory Coast** (1).

I. *Industrial trees and shrubs.*

(1) Coffee.

*Fomes lignosus* Klotzch.
*Fomes lamaoensis* Murrill.
*Ganoderma* sp.
*Heterodera radicicola* Greeff.
*Cercospora coffeicola* Berk. and Cooke.
*Leptosphaeria coffeicola* Del.
*Sphaerella coffeicola* Cooke.
*Gloeosporium coffeanum* Del.
A undetermined species of Deuteromycetes.
*Cephaleuros virescens* Kuntze.
*Marasmius scandens* Massee.
*Corticium koleroga* (Cooke) von Höhnel.
*Trachysphaera fructigena* Tabor and Bunting.
*Loranthus lanceolatus* Beauv.
*Angraecum* sp.

(2) Cacao.

*Armillariella mellea* (Wahl) Pat.
*Lasiodiplodia theobromae* (Pat.) Griff. and Maubl.
*Corticium salmonicolor* B. and Br.
A disturbance of physiological cause.
*Colletotrichum brachytrichum* Del.
*Phyllosticta theobromae* d'Alm. and S. da Cam.
*Cephaleuros virescens* Kuntze.
*Phytophthora palmivora* Butl.
*Trachysphaera fructigena* Tabor and Bunting.
*Nectria* sp.
*Colletotrichum* sp.
*Marasmius scandens* Massee.
*Marasmius equicrinis* Müll.
*Loranthus lanceolatus* Beauv.

(3) Oil Palm.

A undetermined species of Perisporiaceae.
*Pestalozzia palmarum* Cooke.
*Ganoderma applanatum* Persoon.

(4) Coconut.

*Pestalozzia palmarum* Cooke.

(1) Communication from the official correspondent of the Institute, Mr. A. Mallamaire, Colonial Agronomy Ingénieur, Director of the Phytopathological Laboratory, La Mé, Ivory Coast, transmitted to the Institute by the Government General of French West Africa.

(5) Kola.

*Cephaleuros virescens* Kuntze.
*Nectria* sp.
*Lasiodiplodia theobromae* (Pat.) Griff. and Maub.
*Marasmius equicrinis* Müll.
*Loranthus lanceolatus* Beauv.

(6) Cotton.

*Bacterium* sp.
*Phoma roumii* Fron.
*Lasiodiplodia theobromae* (Pat.) Griff. and Maubl.
*Pseudomonas* (*Bacterium*) *malvacearum* E. F. S.
*Sclerotium* sp.
*Uredo* (*Kuehneola*) *gossypii* Lag.
*Ramularia areola* Atk.
A virus disease.
*Glomerella gossypii* Edgerton.

(7) Castor oil plant.

*Sclerotium* sp.
*Oidium* sp.

II. *Fruit crops.*

(8) Banana.

*Gloeosporium musarum* Cooke and Massee.
? *Pseudomonas musae* Gäumann.
*Marasmius stenophyllus* Mont. (*M. semiustus* Berk. and Cooke).
*Tylenchus* (*musicola* Cobb).
*Lasiodiplodia theobromae* (Pat.) Griff. and Maubl.
*Verticillium* sp.
*Fusarium* sp.

(9) Pineapple.

A undetermined species of Deuteromycetes.

(10) Lemon.

*Ganoderma applanatum* Persoon.

III. *Food Crops.*

(11) Plantain.

Same diseases as the banana; but is more resistant.

(12) Manioc.

*Cercospora cassavae* Ell. and Ev.
*Mycosphaerella manihotis* (Syd.) Ghesq.
*Colletotrichum manihotis* Henn.
A virus disease.

(13) Taro.

*Cercospora* sp.
*Phyllosticta colocasiae.*
*Pythium aphanidermatum* (Eds.) Fitz.

(14) Yam.

*Cercospora* sp.

(15) Maize.

*Ustilago maydis* (DC.) Corda.
*Diplodia zeae* (Schw.) Lév.
*Helminthosporium turcicum* Pass.

(16) Groundnut.

*Cercospora personata* Ellis.
A virus disease.
*Sclerotium* (*Corticium*) *rolfsii* (Sacc.) Curzi.
*Colletotrichum* sp.

IV. *Leguminous cover plants.*

(17) *Tephrosia candida.*

*Lasiodiplodia theobromae* (Pat.) Griff. and Maubl.
*Loranthus lanceolatus* Beauv.

(18) *Tephrosia ehrenbergiana.*

*Meliola bicornis* Wint. var. *thephrosiae* Beeli.

(19) *Mucuna utilis.*

*Cercospora mucunae* Syd.
*Sclerotium* (*Corticium*) *rolfsii* (Sacc.) Curzi.

(20) *Centrosema plumieri.*

*Bacterium* sp.
*Sclerotium* sp.

(21) *Cassia hirsuta.*

*Sclerotium* sp.

V. *Vegetables.*

(22) Tomato.

*Cladosporium fulvum* Cooke.
*Bacterium briosii* Pavar.
*Tylenchus* sp.
*Heterodera radicicola* Greeff.

(23) Beans.

*Isariopsis griseola* Sacc.
*Sclerotium* sp.
*Sclerotium* (*Corticium*) *rolfsii* (Sacc.) Curzi.

(24) Cabbage.

*Alternaria brassicae* (Berk.) Sacc.
*Sclerotium* sp.
*Bacterium* sp.
*Heterodera radicicola* Greeff.

(25) Celery.

*Septoria apii* (Br. and Cav.) Rostr.
*Cercospora apii* Fr.
*Bacterium* sp.
*Sclerotium* (*Corticium*) *rolfsii* (Sacc.) Curzi.

(26) Asparagus.

*Fusarium* sp.

(27) Egg plant.

*Tylenchus* sp.
*Heterodera radicicola* Greeff.

(28) Cardoon.

*Sclerotium* sp.

(29) Various Salades.

*Heterodera radicicola* Greeff.

(30) Turnip.

*Sclerotium* sp.
*Bacterium* sp.

(31) Carrot.

*Heterodera radicicola* Greeff.

(32) Indian spinach (*Basella rubra*).

*Heterodera radicicola* Greeff.

**Egypt: Locust Report from May, 1934 to August, 1935** (1).

Since our last report on the locust situation in Egypt (see this *Bulletin*, 1934, No. 7, p. 150), no desert locust (*Schistocerca gregaria*, Forsk.) was observed in the country.

Sinai was lately inspected and even solitary forms were not observed.

**Eritrea: Locusts** (2).

During the month of July, 1935, no locusts have been reported in the Colony.

**Mozambique: Locust Movements (*Nomadacris septemfasciata* and *Locusta migratoria migratorioides*)** (3).

April, 1935.

In the whole of the Colony the control of the hoppers is being terminated. Thousands of bands have been destroyed and many tons of hoppers have been collected.

Information received from all the districts and from the Mozambique Company shows that the situation is much better on account of the reduced number of hopper bands observed and also on account of the intense control carried out and the destructive action of parasites, particularly *Empusa grylli*.

In the districts of Quelimane and Tete swarms have been observed originating from the uninhabited regions, also other swarms proceeding from Nyasaland. These swarms generally flew towards the North arriving at the the Sout-Rastern circumscriptions of the Mozambique district.

In the district of Inhambane the first swarms were reported on 3 and 10 April. These swarms later on flew away towards the North.

In the district of Lourenço Marques several swarms appeared proceeding from the territory of the Union. At Guijé another swarm passed over, flying from West to East though on the same day the swarm changed its direction and flew from East to West. In the region of Manjacaze a swarm passed over at the beginning of April flying towards Chibuto.

(1) Communication from the Director of the Entomological Section, Ministry of Agriculture, Egypt to the International Institute of Agriculture.

(2) Communication from the official correspondent of the Institute, Dr. Rolando Guidotti, Chief of the Agricultural Bureau of Eritrea, transmitted by the Government of the Colony.

(3) Communication from Mr. Julio Gardé Alfaro Cardoso, Chief of the Entomological Section, Lourenço Marques, Mozambique, transmitted to the Institute by the Repartição Tecnica de Agricultura of the Colony.

In the middle of April several small dispersed swarms were reported in various localities. A large swarm passed over the region of Manhiça and flew towards Sabié.

On the southern frontier swarms continue to enter proceeding from Zululand and the same phenomenon has been reported on the Swaziland frontier.

In conclusion it may be said that the situation in general has improved and that the few swarms originating from the hoppers which it was impossible to destroy, being in uninhabited regions, have concentrated so as to form large invading swarms, several of which are flying towards the North.

### May, 1935.

The control of hoppers is terminated. The general situation, compared with the preceeding year, has improved, principally in the districts in the North. In the Mozambique district no locust movements have been observed; in Tete and Barué, close to the frontier, and also in Southern Rhodesia, several swarms proceeded from the South towards the North or West.

In the Southern districts, Inhambane and Lourenço Marques, large swarms have been observed proceeding from the North; without doubt some of these swarms were formed in the great, almost deserted, plains of Vilanculos, Panda, and Guijá and continued towards the Transvaal including the zone reserved for hunting. After the swarms were united they were carried by the North wind towards the coast where they turned off towards the West, the swarm split up and when the wind changed flew towards the South and then returned Northwards.

A swarm of this origin passed over the city of Lourenço Marques on 10 May and one of its sub-divisions on 14 May. The greater part of the swarm remained for a certain time in Moamba.

Swarms continue to cross and recross the frontiers of Zululand and Swaziland.

The locusts are still being decimated by parasites. In the swarm which settled in the city the percentage of insects attacked was large. After the locusts took flight thousands were observed to be attacked by *Sporotrichum* (characterised by the greenish purple colour) and by a Bacillus (recognisable by the characteristic colour of the abdomen).

The mortality was great from *Empusa grylli* (the locusts attacked become whitish in colour and die on the plants). Neither worms nor Diptera were observed in this swarm.

## LEGISLATIVE AND ADMINISTRATIVE MEASURES

**Germany.** — By Notification of 15 May, 1935, it is announced that Turkey has adhered to the International Convention for grape phylloxera of Bern, as from 1 March, 1935. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. Juli 1935, Bd. VII, Nr. 7, S. 99).

*** By Decree of 20 May, 1935 and with a view to preventing the introduction of the cherry fruit fly [*Rhagoletis cerasi*], a new list of customs posts has been established which are authorised to accept consignments of fresh cherries intended for importation. The present Decree came into force on 1 June, 1935. (*Ibid.*, S. 100-101).

*** By Decree of 29 May, 1935, for the purpose of preventing the introduction of wart disease of potatoes [*Synchytrium endobioticum*], it is prohibited to import potatoes by customs posts other those expressly authorised for this purpose the list of which, newly established, is attached to the present Decree. (*Ibid.*, S. 101-102).

*** By Ordinance No. 8 of 20 June, 1935, new regulations have been established relative to the trade in potatoes.

These regulations make a clear distinction between potatoes for consumption and those intended for planting.

With regard to the potatoes for consumption, the provisions are mostly of a phytosanitary nature.

With regard to wet rot, damage caused by frost, dry rot, blight [*Phytophthora infestans*], injured and worm eaten tubers, deformed and green tubers, the maximum limits which should not be exceeded are fixed by the Ordinance of 14 August, 1934 [see this *Bulletin*, 1934, No. 11, pp. 247-248].

Potatoes showing marks of rust (' Eisenfleckigkeit ') should be tolerated up to 6 % of the weight; those showing black marks up to 10 % of the weight.

The limit for scab (' Schorf ') which should be tolerated is fixed at 4 % of the weight; the tubers, however, which are only lightly marked by scab so that their appearance is not adversely affected and so that when pealed the deterioration does not cause loss in weight, are considered as free from scab.

Samples of potatoes recognised as being attacked by wart disease [*Synchytrium endobioticum*] should be immediately sent to the nearest Plant Protection Station. The consignment will be returned.

The lots of potatoes exceeding the defined limits should be examined again. If, however, the deterioration exceeding the fixed limits is due to marks of rust or black marks, the potatoes cannot be considered as potatoes for consumption and should accordingly returned.

In cases of disagreement over merchandise on arrival an expert should be called in to give judgement on the extent of the deterioration determined by him. The merchandise should accepted as it stands if the total deterioration does not exceed 10 % of the value, provided that none of the limits indicated are exceeded. The strictest measures are applicable when the maximum limits are exceeded. If the total deterioration exceeds 10 %, the potatoes should be compulsorily subjected to another examination. It is, however, prohibited to select potatoes that have been declared by an expert to be industrial or forage potatoes, for the purpose of afterwards selling them as potatoes for consumption.

The determination of deterioration not exceeding the limits mentioned cannot result in a diminution in price.

When the potatoes in question are intended for planting, a distinction is made between recognised choice potatoes and ordinary commercial potatoes. The prescriptions which apply to choice potatoes are naturally the strictest and are as follows:—

Serious injuries (affecting the sprouting power) are tolerated up to 1.5 % of the weight; 1.5-3 % results in a diminution in price.

Diseased potatoes (excepting damage caused by wet rot and frost) are tolerated up to 1 %; 1–2 % results in a diminution in price.

Potatoes damaged by wet rot or frost are tolerated at the place of expedition; up to 0.25 to 1.0 %; and up to 2 to 3 % immediately after arrival at the place of destination;.

Consignments infected by wart disease will be returned. Alterations of a serious nature such as rust spots, internal suberous layers (' Pfropfenbildung '), slightly worm eaten appearance of the interior, slight malformations, cracking of the skin (' Schalenrissigkeit '), green tubers and scab not affecting the value of the merchandise as potatoes for planting, do not give the right to claims being made except in cases where the extent of these alterations is great or where it has been expressly stated in the contract of sale that the merchandise should be free from these alterations. Potatoes are considered free from scab if less than 5 % of the surface is covered with marks of scab.

The above mentioned deteriorations, not exceeding the maximum limits, result in a diminution in price; if they exceed these limits or if the total of several deteriorations exceed 10 %, the merchandise may be returned.

An appendix to the present Ordinance gives detailed rules to be followed by experts when judging potatoes. It is established how samples should be taken, what should be considered as deterioration or alteration of less importance is defined. The various diseases and methods for determining them are also defined. Experts are obliged, without delay, to report all cases of powdery scab [*Spongospora subterranea*] and wart disease determined by them.

Special prescriptions refer to the inspection of potatoes for planting intended for export.

All consignments of these potatoes should be inspected by an expert official of the Plant Protection Service at the place where they are packed. The rules established in this respect contain measures even more strict than those mentioned above. Thus, for example, it is established that lots of potatoes having a disagreeable odour of the celler should excluded from exportation. It is left to the expert to decide if the potatoes, the surface of which is wet or covered with the remains of compact clay soil, should be passed or not for exportation. The experts should also ascertain whether the consignments are accompanied by certificates from the Corporation of Agriculture (' Reichsnährstand '). Each sack of potatoes should contain a copy of the certificate.

The merchandise cannot be exported unless the expert in charge of inspection has given a favourable opinion and given the exporter a special permit, also the certificate of health and origin required by the importing country. (*Ibid.*, S. 104-118).

**Germany (Oldenburg).** — By Decree of 8 June, 1935, the clearing of all land of thistles, including roads, streets and public places, is made compulsory. The thistles [*Cnicus arvensis*] should be cut down to the root before 15 June of each year. This obligation also applies to tenents of land. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. Juli 1935, Bd. VII, Nr. 7, S. 119).

**Germany (Saxony).** — By Decree of 27 May, 1935, modifying the prescriptions concerning the sale of toxic preparations used for plant protection, the sales bureaux of the Plant Protection Service and the agricultural corporations should keep special registers in which are entered all sales of these toxic preparations. A model of this register is attached. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. Juli 1935, Bd. VII, Nr. 7, S. 119-120).

**Germany (Thuringia).** — A Police Ordinance, dated 29 March, 1935, relative to the control of dodder [*Cuscuta*], established that tenents of land in the district of Sonneberg and their representatives should immediately declare the actual or suspected presence of dodder. They should subsequently carry out the measures for control judged necessary by the Plant Protection Service. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. Juli 1935, Bd. VII, Nr. 7, S. 120-121).

**Argentine Republic.** — The Decree No. 54.285 of 28 December, 1935 contains regulations of the Decree of 3 December, 1930 by which Aleppo grass (*Sorghum halepense*) was declared a plant noxious to agriculture.

According to the above mentioned Decree of 1930 the territory of the Republic is divided into two regions: the region A including the territories situated to the east of the isohyetal line of 500 mm.; and the region B including the territories situated to the west of that line, excluding the irrigated zones.

In region A and the irrigated zones of region B all owners, farmers, tenants or occupiers of every kind of rural property, are obliged to prevent and control the growth of Aleppo grass and to destroy it.

It is forbidden, in all the territory of the Republic, to sow or multiply Aleppo grass.

In region B existing cultivations of Aleppo grass are permitted provided they are not allowed to flower or fructify.

The seeds of Sudan grass (*Sorghum vulgare* var. *sudanense*) and broom corn (*S. vulgare* var. *saccharatum*) being one of the means whereby this weed is propagated, producers of these seeds should apply, within 60 days following the harvest, for inspection by the Ministry of Agriculture; after the samples intended for analysis have been taken and placed in sealed sacks, the seeds will be declared suitable or not for cultivation, and if the do not contain seeds of Aleppo grass a certificate of analysis will be given with the autorisation of the Ministry of Agriculture. The person entrusted with the inspection should determine the absence of Aleppo grass in the field of production.

As soon as they have received the above certificate of analysis, those interested can expedite seed which, however, should be placed in sealed sacks and accompanied by a free pass.

The sacks should be new sacks used for the first time (without repairs).

The railway companies, shipping companies and road transport companies or any person engaged in transport cannot accept consignments of the above mentioned seeds if they are not contained in sacks conforming to the above mentioned conditions and accompanied by a free pass.

Traders may not buy or sell seeds of Sudan grass or broom corn if not accompanied by a certificate of analysis issued by the Ministry of Agriculture.

All seeds of Sudan grass and broom corn declared unsuitable for cultivation, as they contain seeds of Aleppo grass, following the analysis of the inspector, will either be burnt or rendered unsuitable for sowing in the presence of the person detailed for this purpose and who will issue a certificate to that effect in triplicate.

All persons who infringe the provisions of these regulations, who sell directly or through the intermediary of other persons, or who offer for sale seeds of Aleppo grass, will be liable to a fine of from 5 to 1000 ' pesos '.

Owners of rural properties, railways, roads, irrigation canals, etc., will also be liable to the same fine:—

(*a*) who do not prevent or control the growth of Aleppo grass or destroy it;

(*b*) who allow it to flower in region A and the irrigation zones of region B;

(*c*) who allow it to fructify in region B;

(*d*) who transport or sell seeds of Sudan grass or broom corn which do not conform to the above mentioned regulations.

On estates belonging to the State, either national, provincial, or municipal; public establishments, roads, canals and public routes of communication should conform to the rules of the present Decree which should be carried out by the corresponding authorities.

In cases where the owners or occupiers of land do not carry out, within the specified time, the destruction of the weed the officials authorised by the Ministry of Agriculture are charged with applying the established measures and carrying out the destruction at the expense of the owner or occupier with the staff and means that circumstances allow. (*Boletín Oficial de la República Argentina*, Buenos Aires, 21 de mayo de 1935, año XLIII, núm. 12.277, págs. 731 y 732).

*** The Decree No. 54.691 of 12 January, 1935 establishes the procedure to be following with regard to the obligations entered into by farmers who have bought barriers for the control of the South American locust [*Schistocerca paranensis*] in the years 1933 and 1934. (*Ibid.*, pág. 728).

*** The Decrees Nos. 55.176 and 55.178 of 23 January, 1935 approved the expenditure of 136.779,70 and 225,356,52 ' pesos , respectively for the purchase of adults and eggs of the South American locust [*Schistocerca paranensis*] and for digging ditches and the purchase of insecticides for the destruction of the plague in the year 1934 carried out by the National Bank of Argentina. (*Ibid.*, 6 de junio de 1935, núm. 12.287, pág. 181).

**Scotland.** — The Importation of Raw Cherries (Scotland) Order of 1935, dated 9 May, 1935, prescribes measures analogous to those already adopted for England and Wales [see this *Bulletin*, 1935, No. 7, p. 158] for the prevention of the introduction of the cherry fruit fly [*Rhagoletis cerasi*]. (*Statutory Rules and Orders*, 1935. No. $\frac{436}{S. 19}$, London, 1935, 4 pp).

**United States of America.** — By Amendment No. 1 to revised rules and regulations supplemental to Notice of Quarantine No. 64 on account of the Mexican fruit worm [*Anastrepha ludens*], approved on 19 March, 1935, and effective on the same date, are designated as ' regulated area ' the counties of Brooks, Cameron, Hidalgo, and Willacy in the State of Texas, including all cities, towns, townships, and other political subdivisions within their limits. (United States Department of Agriculture. Bureau of Entomology and Plant Quarantine. *Modification of Mexican Fruit Worm Quarantine Regulations*, Washington, 1935, 1 p.).

**Italy.** — By Ministerial Decree of 10 June, 1935, and by virtue of the Royal Decree Law No. 1754 of 12 August, 1927, containing measures for the development of olive-growing, also the Law No. 987 of 18 June, 1931, containing measures for the protection of cultivated plants and agricultural products [see this *Bulletin*, 1931, No. 9, p. 166] a compulsory Syndicate has been established for the improvement and development of olive-growing in the province of Perugia.

The contribution payable by each member of the Syndicate cannot exceed 10 centesimi per tree in bearing. (*Bollettino Ufficiale del Ministero dell'Agricoltura e delle Foreste*, Roma, 1° luglio 1935, anno VII, n. 19, pp. 2982-2983).

*** By Ministerial Decree of 17 June, 1935, the commune of Panicale in the Province of Perugia has been declared infested by grape phylloxera. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 4 luglio 1935, anno 76°, n. 154, p.3367).

**Morocco (French Zone).** — A Decree of 3 June, 1935, authorises the destruction of rabbits causing great damage in the zone of the circumscription of civil control of Beni-Snassen. (Empire Chérifien. Protectorat de la République française au Maroc. *Bulletin Officiel*, Rabat, 14 juin 1935, XXIV° année, n° 1181, p. 655).

**Palestine** (1). — By the Plant Protection Order (No. 4), 1934, dated 30 September, 1934, the Plant Protection Order (No.2), 1934 shall be amended by the deletion of the paragraph relating to organic manure and soil [see this *Bulletin*, 1934, No. 10, p. 227].

*** By the Plant Protection Order, 1935, dated 29 March, 1935, the Plant Protection Order (No. 2), 1934 [see this *Bulletin*, 1934, No. 10, pp. 226-227], as amended by the Plant Protection Order (No. 3), 1934 [see this *Bulletin*, 1935, No. 1, pp. 16-17], shall be amended by the substitution in the place of the words:—

'Apples and pears whether nursery stock or fruit from U. S. A., Canada, Australia, Hungary of Rumania', appearing in Schedule II thereof, by the words:—

'Apples and pears whether nursery stock or fruit from South Africa, Argentine, Australia, New Zealand, Tasmania, Austria, Brazil, Canada, Hungary, India, Yugoslavia, Japan, Mesopotamia, Mexico, Portugal, Rumania, Spain, U. S. A., Chile, China or Hawaii'.

**Poland.** — The Notification of the Minister of Finance, dated 30 October, 1934, gives the list of plant protection and seed-testing stations authorised to issue certificates of health and origin attesting the absence of seeds of dodder [*Cuscuta*] for imports of plant products from abroad unaccompanied by a certificate from the phytopathological seed-testing services of the exporting country.

The following are authorised to issue the said certificates:— the Chambers of Agriculture of Wilno, Torun, Poznan, Katowice, Lodz, Luck, Warsaw, Krakow, Lwow, Lublin, also the central plant protection service of Danzig Free City and the Chamber of Agriculture of Torun, in cases where importation is made by a customs house situated in the territory of Danzig Free City.

The certificates attesting the absence of seeds of dodder required for consignments of seeds of clover [*Trifolium*], lucerne [*Medicago*], sand clover [*Anthyllis*], sweet clover [*Melilotus*], birdsfoot trefoil [*Lotus corniculatus*] and timothy grass [*Phleum pratense*] may be issued by the seed-testing establishments of the Chambers of Agriculture of Wilno, Cieszyn, Torun, Poznan and Luck, by similar establishments of the Museum of Industry and Agriculture of Warsaw, of the University of Krakow and the Station of agricultural botany of Low. These certificates may be also issued by the Chamber of Agriculture of Torun and by the Agricultural Institute of the Polytechnic School of Danzig in cases where importations are to be made by the customs houses situated in the territory of Danzig Free City. (*Deutsches Handels-Archiv*, Berlin 1935, 89. Jahrg., 2. Märzheft, S. 989).

(1) From documents communicated by the official correspondent of the Institute, Mr. G. BALLARD, Government Entomologist, Department of Agriculture and Forests, Jerusalem, Palestine.

**Greece** (1). — A Decree of 17 June, 1935, published on the following 4 July, modifies the Decree of 14 April, 1927, prohibiting the importation of products liable to introduce grape phylloxera [*Phylloxera vastatrix*], in the sense that importation is authorised into regions free from grape phylloxera, of aquatic plants, dried or living, under certain conditions and restrictions which will be established each time by the Agricultural Council.

## RECENT BIBLIOGRAPHY


Ark, P. A. Filtrability of certain plant pathogenic bacteria. *Phytopathology*, Lancaster, Pa., 1935, Vol. 25, No. 7, pp. 728-729.
[*Erwinia amylovora*, *E. carotovora*].

Ayers, Theodore T. Parasitism of Dispira cornuta. *Mycologia*, Lancaster, Pa., 1935, Vol. XXVII, No. 3, pp. 235-261, figs. 1-4. Bibliography, pp. 260-261.
[*D. cornuta* was found to be parasitic on certain Mucorales].

Barcellos Fagundes, A. Algumas plantas com propriedades insecticidas. *Boletim do Ministerio da Agricultura*, Rio de Janeiro, 1935, anno 24, num. 1-3, pags. 69-75. Bibliographia, pags. 74-75.
[A long list of Brazilian plants containing substances which kill insects and fishes].

Bertolini, Carlo. Considerazioni sulla mosca che colpisce le olive. *Il Giornale d'Italia Agricolo*, Roma, 1935, anno XVIII, n. 1, p. 4.
[*Dacus oleae*].

Bodenheimer, F. S. Studies on the zoogeography and ecology of palaearctic Coccidae I-III. *Eos*, Madrid, 1935, tomo X, cuad. 3°.-4°., págs. 237 a 271, figs. 1-4. Literature, págs. 268 a 270.

Bodenheimer, F. S. The Florida wax-scale (*Ceroplastes floridensis*, Comst.) in Palestine. *Hadar*, Tel-Aviv—Jaffa, Palestine, 1935, Vol. VIII, No. 7, pp. 187-191, 195, figs. 1-11.

Bonifacio, G. Un problema fondamentale. La lotta contro la mosca dell'olivo. *Il Giornale d'Italia Agricolo*, Roma, 1935, anno XVIII, n. 31, pp. 1-2.
[*Dacus oleae*].

Broadley, E. The control of pest and disease in fruit trees by spraying. *Hadar*, Tel-Aviv — Jaffa, Palestine, 1935, Vol. VIII, No. 7, p. 205.

Butler, Karl D. The cotton root rot fungus, Phymatotrichum omnivorum, parasitic on the watermelon, Citrullus vulgaris. *Phytopathology*, Lancaster, Pa., 1935, Vol. 25, No. 6, pp. 559-577, fig. 1, pls. I-III. Literature cited, pp. 576-577.

Carocci Buzi, C., [e] Serafini, R. Significativo esperimento di lotta contro la mosca delle olive ad Imperia. *L'Olivicoltore*, Roma, 1935, anno XII, n. 7, pp. 8-16, 4 figg.
[*Dacus oleae*].


(1) Communication from the official correspondent of the Institute, Mr. A. Ayoutantis, Chief of the Phytopathological Section, Ministry of Agriculture, Athens.

CARUGHI, A., [e] PAOLONI, C. Recenti insetticidi di origine vegetale. *Il Coltivatore e Giornale Vinicolo Italiano*, Casale Monferrato, 1935, anno 81° e 61°, n. 13, pp. 341-345; n. 14, pp. 377-381.
[Pyrethrum, rotenone, anabasin].

CHESTER, K. Starr. Serological evidence in plant-virus classification. *Phytopathology*, Lancaster, Pa., 1935, Vol. 25, No. 7, pp. 686-701, figs. 1-2. Literature cited, p. 701.

CHESTER, K. Starr. The antigenicity of the plant viruses. *Phytopathology*, Lancaster, Pa., 1935, Vol. 25, No. 7, pp. 702-714, figs. 1-4. Literature cited, p. 714.

CHRISTENSEN, J. J., and JOHNSON, J. J. Field reaction of varieties and selfed lines of corn to different collections of Ustilago zeae. *Journal of Agricultural Research*, Washington, D. C., 1935, Vol. 50, No. 1, pp. 47-57. Literature cited, pp. 56-57.

CIAFFI, Bruno. Brinate tardive sul grano. *Giornale di Agricoltura della Domenica*, Roma, 1935, anno XLV, n. 25, p. 246, 1 fig.
[Observations relative to damage caused by hoar frost to the wheats 'Mentana' and 'Frassineto' at the beginning of May, 1935, in the province of Ancona].

COLE, J. R. Gnomonia nerviseda, the perfect stage of the fungus that cause the vein spot disease of pecan foliage. *Journal of Agricultural Research*, Washington, D. C., 1935, Vol. 50, No. 1, pp. 91-96, figs. 1-2.
[A Latin diagnosis of this fungus occurring on leaves of *Hicoria pecan* is appended].

DE BERTOLINI, V. La clorosi del pesco e la sua cura. *Note di Frutticoltura*, Pistoia, 1935, anno XIII, n. 8, pp. 131-133.

DELLA BEFFA, G. Insetti osservati nella frutta e negli ortaggi dei mercati di Torino. *La Difesa delle Piante contro le Malattie ed i Parassiti — Bollettino del Laboratorio Sperimentale e Regio Osservatorio di Fitopatologia*, Torino, 1935, anno 12° (XXX del Bollettino), n. 3, pp. 77-85.

DENNIS, R. W. G. Notes on the occurrence of *Pyrenophora Avenae* Ito, in Scotland. *Transactions British Mycological Society*, London, 1935, Vol. XIX (1934), Pt. IV, pp. 288-290, figs. 1-9. References, p. 290.

DESRUE, A. Les mouillants sont-ils utiles dans nos bouillies? *Revue Horticole*, Paris, 1935, 107° année, n° 20, pp. 494-495.

DESRUE, A. Post-scriptum sur les mouillants. *Revue Horticole*, Paris, 1935, 107° année, n° 20, p. 497.

DIXON, Lawrence F., MCLEAN, Ruth A., and WOLF, Frederick A. The initiation of downy mildew of tobacco in North Carolina in 1934. *Phytopathology*, Lancaster, Pa., 1935, Vol. 25, No. 6, pp. 628-639, figg. 1-3.
[*Peronospora tabacina*].

DOTTI, Francesco. La lotta contro il baco delle mele. *La Romagna Agricola e Zootecnica*, Ravenna, 1935, anno XXIX, n. 4-5, pp. 97-113, figg. 1-3.
[*Cydia pomonella*. Also observations on *C. molesta*].

DO VALLE REGO, Constantino. Ceratitis capitata (Wied.), bicho das fructas. *Boletim do Ministerio da Agricultura*, Rio de Janeiro, 1935, anno 24, num 1-3, pags. 77-83, 7 figs.

Dowson, V. H. W. Notes on insecticide trials with date palms, Kut as-Sayyid Estate, 1934. *Hadar*, Tel-Aviv—Jaffa, Palestine, 1935, Vol. VIII, No. 6, pp. 174-175.
[Experiments against ?*Oligonychus simplex*, *Batrachedra amydraula* and *Arenipses sabella*].

Ferraris, T[eodoro]. Il Black-rot della vite. *Giornale di Agricoltura della Domenica*, Roma, 1935, anno XLV, n. 33 p. 323, 3 figg.
[This disease, due to *Guignardia bidwellii*, is unknown in Italy up to the present (see this *Bulletin*, 1935, No. 7, p. 169); it has recently been found in Yugoslavia (see this *Bulletin*, 1935, No. 3, p. 67].

Fischer, George W. Comparative studies of certain cultures of Puccinia rubigovera and Puccinia tomipara on wild grasses. *Phytopathology*, Lancaster, Pa., 1935, Vol. 25, No. 7, pp. 657-685, figs. 1-3. Literature cited, pp. 683-685.

Gante, Th. Echter Mehltau auf Begonienblättern in Deutschland. *Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1935, 15. Jahrg., Nr. 2, S. 14-15.
[? *Oidium begoniae*].

Gasow, H. Beitrag zur Bekämpfung der Kolfliege (Phorbia brassicae Bché.) durch flüssige und streufähige Mittel. *Zeitschrift für angewandte Entomologie*, Berlin 1935, Bd. XXII, Heft, 1, S. 118-130, Abb. 1-3. Literatur, S. 128.

Goidànich, Gabriele. Una nuova malattia della pesche. *Giornale di Agricoltura della Domenica*, Roma 1935, anno XLV, n. 32, p. 313, figg. 1-4.
[*Fusarium herbarum* and *F. poae*].

Goto, Kazuo. Observations on spore discharge in perfect stage of Sclerotium Rolfsii Sacc. *Journal of the Society of Tropical Agriculture*, Taiwan (Formosa), Japan, 1934, Vol. VI, No. 3, pp. 609-618, figs. 1-2. Literature cited, p. 618.

Gregor, Mary J. F. A disease of bracken and other ferns caused by *Corticium anceps* (Bres. and Syd.) Gregor. *Phytopathologische Zeitschrift*, Berlin 1935, Bd. VIII, Heft 4, S. 401-419, Fig. 1-11. Literature cited, S. 419.
[With a summary in German].

Harrison, T. H. Brown rot of fruits and associated diseases in Australia. Part II. An interesting Discomycete, *Sclerotinia aestivalis* Pollock, occurring on mummified fruits. *Mycologia*, Lancaster, Pa., 1935, Vol. XXVII, No. 3, pp. 302-318, figg. *A-B*, pl. 24. Bibliography, p. 318.

Hart, Helen, and Forbes, I. L. The effect of light on the initiation of rust infection. *Phytopathology*, Lancaster, Pa., 1935, Vol. 25, No. 7, pp. 715-725, fig. 1. Literature cited, p. 725.
[*Puccinia* spp.].

Hemmi, Takewo, and Kurata, Shizuko. Contributions to the knowledge of anthracnoses of plants II. On *Gloecsporium Olivarum* Alm. causing the olive anthracnose. *Journal of the Society of Tropical Agriculture*. Taiwan (Formosa), Japan, 1934, Vol. VI, No. 3, pp. 573-583, figs. 1-3. Literature cited, p. 583.

Héranger, Serge F. Pulvérisation, mouillabilité et mouillants. *Revue Horticole*, Paris, 1935, 107e année, nº 20, p. 495-497.

HERFORD, G. M. Observations on the biology of Bruchus obtectus Say, with special reference to the nutritional factors. *Zeitschrift für angewandte Entomologie*, Berlin 1935, Bd. XXII, Heft 1, S. 26-50, Fig. 1-5. Bibliography, S. 49-50.

HIRANE, Seiichi. Some remarks on the fungus Uromyces hyalosporus Sawada. *Journal of the Society of Tropical Agriculture*, Taiwan (Formosa), Japan, 1934, Vol. VI, No. 4, pp. 683-686, fig. 1. Bibliography, p. 686.
[On *Acacia confusa*].

HOFFMANN, William E. The life history, economic status, and control of three injurious leaf beetles (Coleoptera: Chrysomelidae). *Lingnan Science Journal*, Canton, China, 1935, Vol. 14, No. 3, pp. 505-517, pls. 24-30. References cited, p. 517.
[*Phaedon brassicae*, *Throscoryssa citri* and the green citrus flea beetle (an Halticinid as yet unidentified)].

HOGGAN, Ismé A., and JOHNSON, James. A virus of crucifers and other hosts. *Phytopathology*, Lancaster, Pa., 1935, Vol. 25, No. 6, pp. 640-644, figs. 1-2. Literature cited, p. 644.

HOLZ, W. Eine Methode zur Feststellung des Befalls mit Fusicladium dendriticum vor dem Ausbruch der Schorfkrankheit bei Pirus malus. *Zentralblatt für Bakteriologie, Parasitenkunde und Infektionskrankheiten*, Zweite Abteilung, Jena 1935, 92. Bd., Nr. 20/23, S. 459-461, Abb. 1-2. Literaturverzeichnis, S. 461.

HÜLSENBERG, H. Beitrag zur Züchtung einer nematodenfesten Zuckerrübe. *Landwirtschaftliche Jahrbücher*, Berlin 1935, 81. Bd., Heft 4, S. 505-523, Abb. 1-3.
[*Heterodera schachtii*].

JOHNSON, E. M. An example of spread of veinbanding from potatoes to tobacco. *Phytopathology*, Lancaster, Pa., 1935, Vol. 25, No. 6, pp. 650-652, fig. 1.

KAHO, Hugo. Zur Physiologie der Kartoffel II. Ein Beitrag zur Diagnose abbaukranker Knollen. *Phytopathologische Zeitschrift*, Berlin 1935, Bd. VIII, Heft 4, S. 323-335. Literatur, S. 335.

KLEE, H., und RADEMACHER, B. Der Stand der Weizengallmückenbekämpfung nach Untersuchungen in Schleswig-Holstein. *Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1935, 15. Jahrg., Nr. 1, S. 3-6, Abb. 1-3.
[*Contarinia tritici*, *Sitodiplosis mosellana*].

KLEIN, H. Z. Trees damaged during pest control operations. *Hadar*, Tel-Aviv-Jaffa, Palestine, 1935, Vol. VIII, No. 7, pp. 193-195, figs. 1-4.

KOIDSUMI, Kiyoaki. Experimental studies on the influence of low temperatures upon the development of fruit-flies. Fifth Report. Effect of varying low temperatures upon the emergence of larvae and pupae of melon-fly (Chaetodacus cucurbitae Coquillett). *Journal of the Society of Tropical Agriculture*, Taiwan (Formosa), Japan, 1934, Vol. VI, No. 3, pp. 495-504.
[In Japanese, with the title also in English].

KOIDSUMI, Kiyoaki. Experimental studies on the influence of low temperatures upon the development of fruit-flies. Sixth Report. On the velocity, favorable temperature, and threshold of development of the eggs, larvae and pupae

of a citrus-fruit-fly (Chaetodacus ferrugineus dorsalis Hendel). *Journal of the Society of Tropical Agriculture*, Taiwan (Formosa), Japan, 1934, Vol. VI, No. 4, pp. 687-696, 3 diagrs.
[In Japanese, with the title also in English].

KRUGER, Giorgio. Frammenti di entomologia cirenaica. *Rassegna Economica delle Colonie*, Roma, 1935, anno 23°, n. 1-4, pp. 157-163, figg. 1-3.
[A list is given, *inter alia*, of the injurious species in Cyrenaica].

KUNIKE. Das Auftreten des Kornkäfers in Deutschland im Frühjahr 1934. *Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1935, 15. Jahrg., Nr. 2, S. 20.
[*Calandra granaria*].

LAMB, Howard, WRIGHT, Ernest, and DAVIDSON, Ross W. A root rot of Chinese elms. *Phytopathology*, Lancaster, Pa., 1935, Vol. 25, No. 6, pp. 652-654, fig. 1.
[*Chalaropsis thielavioides* on *Ulmus pumila* and *U. parvifolia*].

LINDEGG, Giovanna. Cancro picciolare dell'acanto, « Acanthus mollis » L. *Rivista di Patologia Vegetale*, Pavia, 1935, anno XXV, n. 5-6, pp. 229-235, figg. 1-2.
[*Fusoma calidariorum* Sacc. var. *acanthi* n. var. The diagnosis is given of the new variety].

LUDWIGS, Karl, und SCHMIDT, Martin. Die Krankheiten und Schädlinge der Gemüsepflanzen, der Küchenkräuter und wichtigsten Arzneipflanzen. Frankfurt (Oder) und Berlin, Gartenbau-Verlag Trowitzsch & Sohn, 1935, 157 S., 45 Abb., 16 farb. Taf.

LUPI, Luigi. Una geniale applicazione per la frutticoltura. *Il Giornale d'Italia Agricolo*, Roma, 1935, anno XVIII, n. 17, p. 3, 1 fig.
[It is a device called ' manicotto salvapiante ' to be placed round the foot of fruit trees as a protection against ants].

MAMELI CALVINO, Eva. Malattie delle rose prodotte da Coniothyrium. *La Costa Azzurra Agricola Floreale*, San Remo, 1935, anno XV, n. 5, pp. 121-125, 2 figg.
[*Coniothyrium wernsdorffiae*, *C. rosarum*, *C. fuckelii*. *C. fuckelii* and *C. rosarum* have been observed on the rose ' U. Brunner ' near San Remo. It is maintained that these two fungi are identical and by the law of priority should retain the name of *C. fuckelii*].

MASO, S. Liquid hydrocyanic acid for citrus fumigation. *Hadar*, Tel-Aviv–Jaffa, Palestine, 1935, Vol. VIII, No. 7, pp. 206-207, figs. 1-3.

MATSUMOTO, Takashi, and SOMAZAWA, Kôetsu. Immunological studies of mosaic diseases. IV. Effects of acetone, lead subacetate, barium hydroxide, aluminium hydroxide, trypsin, and soils on the antigenic property of tobacco mosaic juice. *Journal of the Society of Tropical Agriculture*, Taiwan (Formosa) Japan, 1934, Vol. VI, No. 4, pp. 671-682.

MATSUMOTO, Takashi, and YAMAMOTO, Wataro. Three important leaf spot diseases of sugar cane in Taiwan (Formosa). *Journal of the Society of Tropical Agriculture*, Taiwan (Formosa), Japan, 1934, Vol. VI, No. 3, pp. 584-598, figs. 1-4, pl. 3.
[*Cercospora taiwanensis* n. sp., *C. köpkei*, ? *Helminthosporium ocellum*. A Latin diagnosis is given of the new species].

MENCHIKOWSKY, F., and PUFFELES, M. The ratio of Ca, Mg: K, Na and the chlorosis of grape fruit trees in the Jordan Valley. *Hadar*, Tel-Aviv–Jaffa, Palestine, 1935, Vol. VIII, No. 6, pp. 161-164. Literature cited, p. 164.

MICHAILOWA, P. V. Pathologico-anatomical changes in the tomato incident to development of woodiness of the fruit. *Phytopathology*, Lancaster, Pa., 1935, Vol. 25, No. 6, pp. 539-558, figs. 1-8. Literature cited, p. 558.

MORRIS, H. M. Olive pests. *The Cyprus Agricultural Journal*, Nicosia, 1935, Vol XXX, Pt. 2, pp. 54-55.
[*Dacus oleae*, *Prays oleellus*, *Phloeotribus oleae*, *Rhynchites ruber* in Cyprus].

MULLER, Alberto S. Lista preliminar das doenças cryptogamicas de plantas cultivadas em Minas Geraes, Brasil. *Boletim de Agricultura, Zootechnia e Veterinaria*, Bello Horizonte, 1935, anno VIII, num. 1, pags. 67-77.

MURAYAMA, Jozo. On the *Ipidae* (Coleoptera) from Formosa with special reference to their food plants. *Journal of the Society of Tropical Agriculture*, Taiwan (Formosa), Japan, 1934, Vol. VI, No. 3, pp. 505-512.
[*Ips angulatus*, *Phloeosinus perlatus*, *Xyleborus* spp., *Scolytoplatypus* spp.].

NATTRASS, R. M. Disease of the olive. *The Cyprus Agricultural Journal*, Nicosia, 1935, Vol. XXX, Pt. 2, pp. 55-57.
[*Cycloconium oleaginum*, sooty mould, *Macrophoma dalmatica*, olive knot in Cyprus].

NATTRASS, R. M. Note on Botrytis sp. as the cause of ' chocolate spot ' of Vicia faba in Cyprus. *The Cyprus Agricultural Journal*, Nicosia, 1935, Vol. XXX, Pt. 2, pp. 57-58, 2 figs.
[The fungus appears to agree fairly closely with *Botrytis fabae*].

NEHRU, S. S. L'applicazione delle onde elettromagnetiche nella cura del « malsecco » degli agrumi. *Citrus*, Messina, 1935, anno XXI, n. 6, pp. 125-128, 6 figg.
[The ' mal secco ' is due to the action of *Deuterophoma tracheiphila*].

NG, Y. C. (NG, Yuk Chau). Notes on the life history of Hebomoia glaucippe (L.) (Lep., Pieridae). *Lingnan Science Journal*, Canton, China, 1935, Vol. 14, No. 3, pp. 499-503. References, p. 503.
[The caterpillars living on the leaves of *Crataeva religiosa*].

NISIKADO, Yosikazu, and YAMAUTI, Kiyû. Contributions to the knowledge of the sap stains of wood in Japan. II. Studies on *Ceratostomella piceae* Münch, the cause of a blue stain of pine trees. *Berichte des Ohara Instituts für landwirtschaftliche Forschungen in Kurashiki, Provinz Okayama, Japan*, Kurashiki 1935, Bd. VII, Heft 4, S. 539-560, pls. XXV-XXIX. Literature cited, S. 558-559.

NOBLE, R. J., HYNES, H. J., MCCLEERY, F. C., and BIRMINGHAM, W. A. Plant diseases recorded in New South Wales. *Department of Agriculture, New South Wales. Science Bulletin, No. 46*, Sydney, 1935, 47 pp., 1 map.
[List of more than 1 260 plant diseases reported in New South Wales].

ORTON, C. R., and HENRY, W. D. An internal necrosis of bean seeds. *Phytopathology*, Lancaster, Pa., 1935, Vol. 25, No. 7, pp. 726-728, fig. 1.
[Apparently the disturbance is of a non-parasitic nature].

PAGUIRIGAN, Domingo B., and TUGADE, Primitivo. Wrapper tobacco. *The Philippine Journal of Agriculture*, Manila, 1935, Vol. 6, No. 1, pp. 1-114, figs. 1-8, pls. 1-29. Bibliography, pp. 103-109.
[Contains, *inter alia*, a chapter entitled:— VIII. Tobacco pests and diseases (pp. 52-70, pls. 20-25)].

PASINETTI, L. Ricerche istologiche sulla « maculatura ferruginosa » (Eisenfleckigkeit) dei tuberi di patata. *Rivista di Patologia Vegetale*, Pavia, 1935, anno XXV, n. 5-6, pp. 185-227, figg. 1-21. Bibliografia, pp. 224-227.
[It appears to be an alteration of a decidedly physiological nature].

PEÃO LOPES, Alberto. Aves destruïdoras de gafanhotos. *Moçambique*, Lourenço Marques, 1935, Nº 2, pags. 45-79, 1 fig., 9 lams.
[A systematic list is given and a description of species of locust destroying birds in Mozambique].

PETERS, G. Scale control by fumigation, *Hadar*, Tel-Aviv–Jaffa, Palestine, 1935, Vol. VIII, No. 7, pp. 208-210, figs. 1-4.

PIERI, A. La infestione di Cydia molesta nella corrente campagna in Toscana. *Note di Frutticoltura*, Pistoia, 1935, anno XIII, n. 8, pp. 129-131.

PLAGGE, H. H., and MANEY, T. J. Soggy breakdown of Winter Banana apples. *Phytopathology*, Lancaster, Pa., 1935, Vol. 25, No. 7, pp. 730-731, figs. 1-2.
[The two types of low-temperature diseases known as soft scald and soggy breakdown of apples are identical].

QUANJER, H. M. H. M., und GÄUMANN, Ernst. Versuche über den Einfluss des Klimas auf den Gesundheitszustand der Kartoffelpflanze. *Phytopathologische Zeitschrift*, Berlin 1935, Bd. VIII, Heft 4, S. 307-321, Abb. 1-6. Literatur, S. 321.

REDDICK, Donald. Mites on potatoes. *Phytopathology*, Lancaster, Pa., 1935, Vol. 25, No. 6, p. 654.
[*Tarsonemus latus*].

REED, H. S., and FRÉMONT, Thérèse. Factors that influence the formation and development of mycorrhizal association in citrus roots. *Phytopathology*, Lancaster, Pa., Vol. 25, No. 6, pp. 645-647, fig. 1.

RIPPER, Walter. Notizen zur Schädlingsfauna Österreichs. *Neuheiten auf dem Gebiete des Pflanzenschutzes*, Wien 1935, XXVIII. Jahrg., Folge 3, S. 68.
[*Phorbia genitalis*, *Phyllobius piri*].

RIVERA, V. Prospettive di studio nelle malattie da « virus » nelle piante. *Atti della Società Italiana per il Progresso delle Scienze*, Roma, 1935, XXIII Riunione, vol. III, pp. 139-140.

ROEPKE, W. De slakrupsenplaag op het Molukken-eiland Batjan. *Mededeelingen van den Landbouwhoogeschool te Wageningen* (*Nederland*), Wageningen 1935, deel 39, verhandeling 1, blz. 3-39, 2 fig., pl. 1-5, Litteratuur, blz. 37-38.
[In Dutch, with a summary in German. *Chalcocelis albiguttata* Sn. and *Thosea moluccana* Rpke. n. sp. injurious to the coconut in Molucca Islands].

RUDNEW, D. F. Der grosse Eichenbock, Cerambyx cerdo L., seine Lebensweise, wirtschaftliche Bedeutung und Bekämpfung. *Zeitschrift für angewandte Entomologie*, Berlin 1935, Bd. XXII, Heft 1, S. 61-96, Abb. 1-14, Kurventaf. 1-3. Literatur, S. 95-96.

RUI, Rino. In tema di lotta contro la peronospora della vite: irrorazioni o polverizzazioni? — I. *L'Italia Vinicola ed Agraria*, Casalmonferrato, 1935, anno XXV, n. 32, pp. 499-502.
[*Plasmopara viticola*].

RYKER, T. C. Fusarium yellows of celery. *Phytopathology*, Lancaster, Pa., 1935, Vol. 25, No. 6, pp. 578-600, figs, 1-7. Literature cited, pp. 599-600.

SALGUES, R. Les modifications biochimiques en phytopathologie. *Comptes rendus des séances de la Société de Biologie et de ses filiales et associées*, Paris, 1935, tome CXIX, nº 27, p. 1396-1398.
[Treating the percentage of alkaloids in the monkshood (*Aconitum napellus*) attacked by *Septoria lycoctoni* var. *macrospora* and the influence of *Phyllosticta matthiolana* on the cyanogenesis of the cherry laurel (*Prunus laurocerasus* var. *schipkaensis*)].

SCHEDL, K. E. Die Organisation des entomologischen Dienstes in Kanada. *Zeitschrift für angewandte Entomologie*, Berlin 1935, Bd. XXII, Heft 1, S. 143-156.

SCHILCHER, E. Rostbekämpfung mit Kalkstickstoff. *Neuheiten auf dem Gebiete des Pflanzenschutzes*, Wien 1935, XXVIII. Jahrg., Folge 2, S. 33-36.
[*Puccinia*].

SCHMIDT, E. W. Zur pathologischen Physiologie albicater und mosaikkranker Zuckerrüben-Blätter. *Phytopathologische Zeitschrift*, Berlin 1935, Bd. VIII, Heft 4, S. 363-368.

SEMPIO, C. Influenza del Co e di altri cationi nello sviluppo di tumori sperimentali da *B. tumefaciens* su piantine di ricino. *Atti della Società Italiana per il Progresso delle Scienze*, Roma, 1935, XXIII Riunione, vol. III, pp. 147-150.

SEMPIO, C. Rapporto tra effetti prodotti da metalli posti a distanza, a contatto e in soluzione nello sviluppo della *Thielavia basicola*. *Atti della Società Italianaper il Progresso delle Scienze*, Roma, 1935, XXIII Riunione, vol. III, pp. 150-153.

SHIRAKI, Tokuichi. Insect pests of citrus-trees in Formosa. III. *Journal of the Society of Tropical Agriculture*, Taiwan (Formosa), Japan, 1934, Vol. VI, No. 4, pp. 697-703.
[See this *Bulletin*, 1934, No. 12, p. 288].

SINDONI, A. Osservazioni sopra il grado di resistenza di alcune varietà di limone al mal secco. *Agricoltura Messinese*, Messina, 1935, anno XXVI, nn. 5-6, pp. 140-152, figg. I-IX.
[The variety 'Interdonato' is not free from 'mal secco' (*Deuterophoma tracheiphila*), but is very resistant to attacks by this parasite; the variety 'Monachella' is highly resistant to 'mal secco', to a far greater degree than the first variety].

SIRRI, Alberto. La cuscuta, nemico eliminabile. *Nuovi Annali dell'Agricoltura*, Roma, 1935, anno XV, n. 2, pp. 341-378, figg. 1-5. Bibliografia, p. 378.

SNELL, K. Die Bewertung der Sorten von Kulturpflanzen nach ihrer Widerstandsfähigkeit gegen Krankheiten. *Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1935, 15. Jahrg., Nr. 2, S. 13-14.

STANLEY, W. M. Isolation of a crystalline protein possessing the properties of tobacco-mosaic virus. *Science*, Lancaster, Pa., 1935, New Series, Vol. 81, No. 2113, pp. 644-645.

STELZNER, Gerhard. Einfacher Nachweis von Hyphen parasitärer Pilze im Halm der Gramineen. *Phytopathologische Zeitschrift*, Berlin 1935, Bd. VIII, Heft 4, S. 369-372, Abb. 1-5. Literatur, S. 372.
[*Tilletia tritici*, *Ustilago tritici*, *U. hordei*, *U. nuda*, *U. avenae*].

SUBRAHMANIA AYYAR, T. V., and ANANTANARAYANAN, K. P. A short note on tobacco decoction as an economic spray material for paddy thrips. *The Madras Agricultural Journal*, Coimbatore, S. India, 1935, Vol. XXIII, No. 3, pp. 100-102.
[Against *Thrips oryzae*].

SUZUKI, Hashio. Studies on the influence of some environmental factors on the susceptibility of the rice plant to blast and Helminthosporium diseases and on the anatomical characters of the plant. II. Influence of differences in soil moisture and in the amount of nitrogenous fertilizer given. *Journal of the College of Agriculture, Tokyo Imperial University*, Tokyo, 1935, Vol. XIII, No. 3, pp. 235-275, pl. XV. Literature cited, pp. 274-275.
[*Piricularia oryzae*, *Helminthosporium oryzae*].

SUZUKI, Hashio. Studies on the influence of some environmental factors on the susceptibility of the plant to blast and Helminthosporium diseases and on the anatomical characters of the plant. III. Influence of differences in soil moisture and in the amounts of fertilizer and silica given. *Journal of the College of Agriculture, Tokyo Imperial University*, Tokyo, 1935, Vol. XIII, No. 3, pp. 277-331, pl. XVI. Literature cited, pp. 330-331.

THIEM, H. Richtlinien zur Vernichtung der Puppen der Kirschfruchtfliege (*Rhagoletis cerasi* L.) durch Behandlung des Bodens. *Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1935, 15. Jahrg., Nr. 1, S. 8-9.

THORNBERRY, H. H. Quantitative studies on the filtration of tobacco-mosaic virus. *Phytopathology*, Lancaster, Pa., 1935, Vol. 25, No. 6, pp. 601-617. Literature cited, pp. 616-617.

THORNBERRY, H. H. Effect of phosphate buffers on infectivity of tobacco-mosaic virus. *Phytopathology*, Lancaster, Pa., 1935, Vol. 25, No. 6, pp. 618-627, fig. 1. Literature cited, pp. 626-627.

TINKHAM, E. R. Distributional and ecological notes on Acrididae from southeastern Kwansi, with a key to the genus Hieroglyphus. *Lingnan Science Journal*, Canton, China, 1935, Vol. 14, No. 3, pp. 477-498. References, pp. 497-498. [Enumeration of 65 species].

TRÄGÅRDH, Ivar, och BUTOVITSCH, Viktor. Redogörelse för barkborrekampanjen efter stormhärjningarna 1931-1932. *Meddelanden från Statens Skogsförsöksanstalt*, Stockholm 1935, Häft. 28, sid. 1-268, fig. 1-60. Litteraturförteckning, sid 238-239.
[In Swedish, with title and summary in German:— 'Bericht über die Bekämpfungsaktion gegen Borkenkäfer nach den Sturmverheerungen 1931-1932'].

TRANZSCHEL, W. La ruggine del ciliegio: "Leucotelium Cerasi" (Béreng.) n. gen. n. comb. ("Puccinia Cerasi" Cast.) ed il suo stadio ecidiale. *Rivista di Patologia Vegetale*, Pavia, 1935, anno XXV, n. 5-6, pp. 177-183.
[The aecidial form of *Leucotelium cerasi* lives on *Eranthis hiemalis*].

TRINCHIERI, Giulio. Asserzioni gratuite. La tignola della patata e la cocciniglia di San Josè in Italia? *Bollettino della Società Entomologica Italiana*, Genova, 1935, vol. LXVII, n. 7, pp. 106-111.
[Denies the statement of Yugoslave origin that *Phthorimaea operculella* and *Aspidiotus perniciosus* exist in Italy].

TRAPPMANN, W., und NITSCHE, G. Beiträge zur Giftwirkung von Rotenon und Pyrethrinen auf verschiedene Insekten. *Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1935, 15. Jahrg., Nr. 1, S. 6-7.
[*Bombyx mori*, *Vanessa* spp., *Smerinthus ocellata*, *Dendrolimus pini*, *Lymantria* spp., *Stilpnotia salicis*, *Euproctis chrysorrhoea*, *Agrotis* sp., *Carpocapsa pomonella*, *Agelastica alni*, *Melolontha* sp., *Oryctes nasicornis*, *Orchestes salicis*, *Athalia spinarum*, *Phorodon persicae*].

TROTTER, A. Le malattie batteriche del tabacco. *Bollettino Tecnico del R. Istituto Sperimentale per le Coltivazioni dei tabacchi "Leonardo Angeloni"*, Scafati, 1935, anno XXXII, n. 2, pp. 101-139, figg. 1-11, tav. I-III. Pubblicazioni citate, pp. 136-138.
[With title and summary in English:— 'Bacterial diseases of tobacco'. — *Aplanobacter maculicola*, *Bacillus amylobacter*, *B. aeruginosus*, *B. caulivorus*, *B. carotovorus*, *B. fluorescens liquefaciens*, *B. fluorescens putridus*, *B. tabacivorus*, *Bacterium angulatum*, *Bact. melleum*, *Bact. pseudozoogloeae*, *Bact. solanacearum*, *Bact. tabacum*, *Bact. tumefaciens*, *Bact. vesicatorium*, *Bact. xanthochlorum*, *Phytomonas heterocea*, *Phyt. polycolor*].

TRUJILLO PELUFFO, Agustín. Los insectos nocivos a las plantas. Principales métodos de lucha. *Revista de la Asociación Rural del Uruguay*, Montevideo, 1935, año LXII, núm. 6, págs. 7 a 9.

TU, Chih, and LI, H. W. Breeding millet resistant to smut in North China. *Phytopathology*, Lancaster, Pa., 1935, Vol. 25, No. 6, pp. 648-649.
[*Ustilago crameri* on *Chaetochloa italica*].

TULESCHKOV, Kristo. Über Ursachen der Überwinterung der Lymantria dispar, L. monacha und anderer Lymantriiden im Eistadium. *Zeitschrift für angewandte Entomologie*, Berlin 1935, Bd. XXII, Heft 1, S. 97-117, Abb. 1-11. Literatur, S. 117.

TULLIS, L. C. Histological studies of rice leaves infected with Helminthosporium oryzae. *Journal of Agricultural Research*, Washington, D. C., 1935, Vol. 50, No. 1, pp. 81-90, figs. 1-6. Literature cited, p. 90.

TUNSTALL, A. C. A new species of *Glomerella* on *Camellia Theae*. *Transactions British Mycological Society*, London, 1935, Vol. XIX (1934), Pt. IV, pp. 331-336, fig. 1, pl. XV.
[*Glomerella major* n. sp. Description in English with a Latin diagnosis].

UPPAL, B. N., PATEL, M. K., and KAMAT, M. N. The fungi of Bombay. *Department of Agriculture, Bombay. Bulletin No. 176 of 1934*, Bombay, 1935, VIII + 56 pp., 1 map. References, pp. 55-56.
[A list of 593 fungi recorded in the Bombay Presidency].

UVAROV, B. P. Locusts and a rational anti-locust policy. *The Empire Cotton Growing Review*, London, 1935, Vol. XII, No. 3, pp. 193-198.

VAYSSIÈRE, P. Sur la biologie peu connue de trois Coléoptères de nos Colonies. *Bulletin de la Société entomologique de France*, Paris, 1935, tome XL, nº 10, pp. 160-162, pl. IV.
[*Phaedonia areata* on *Indigofera pilosa*, *I. sumatrana*, coffee tree and a wild orchid (Ivory Coast and French Cameroon); *Ecthoea quadricornis* on coffee tree (French Guiana); *Macrotoma serripes* on *Cola acuminata* (French Cameroon)].

VERONA, O., e CECCARELLI, A. Su di una tracheomicosi dell'amaranto (*Amarantus tricolor* L.) prodotta da una specie di *Fusarium* e da *Verticillium amaranti* n. sp. e, in genere, sulla biologia di alcuni *Verticillium* patogeni. *Phytopathologische Zeitschrift*, Berlin 1935, Bd. VIII, Heft 4, S. 373-400, Fig. 1-13. Lavori citati, S. 398-400.
[*Fusarium* sp., *Verticillium amaranti* n. sp., *V. albo-atrum*, *V. dahliae*, *V. tracheiphilum*. The Latin diagnosis is given of the new species].

VERPLANCKE, G. Etude d'une forme nouvelle de la "bigarrure" de la pomme de terre. *Bulletin de la Société Royale de Botanique de Belgique*, Bruxelles, 1935, tome LXVII, fasc. 2, p. 105-116. Bibliographie, p. 116.

VOŬTE, A. D. Die Entwicklung der Mehlmotte, Ephestia Kühniella Zell., bei konstanten und schwankenden temperaturen. Teil I. *Zeitschrift für angewandte Entomologie*, Berlin 1935, Bd. XXII, Heft 1, S. 1-25, Abb. 1-10. Literatur, S. 24-25.

WATZL, O. Meromyza saltatrix L., ein Getreidehalmschädling, ähnlich der gemeinen Weizenhalmfliege. *Neuheiten auf dem Gebiete des Pflanzenschutzes*, Wien 1935, XXVIII. Jahrg., Folge 3, S. 65-67. Literatur, S. 67.
[*M. saltatrix* var. *nigriventris*, *Chlorops taeniopus*].

WERNHAM, Clifford C. A species of Sorodiscus on Heteranthera. *Mycologia*, Lancaster, Pa., 1935, Vol. XXVII, No. 3, pp. 262-273, figs. 1-2, pls. 17-18. Literature cited, pp. 272-273.
[*S. heterantherae* n. sp. parasitic on *Heteranthera dubia*. Description in English].

WHITE, R. P. Pestalotia spp. ou Aucuba, Cibotium and Leucothoë. *Mycologia*, Lancaster, Pa., 1935, Vol. XXVII, No. 4, pp. 342-346, pl. 32.
[*P. aucubae* n. sp. on *Aucuba japonica* var. *variegata*; *P. cibotii* n. sp. on *Cibotium schiedei*; *P. leucothoës* n. sp. on *Leucothoë catesbaei*. Description in Latin and English].

WILHELM, A. F. Untersuchungen über das Verhalten sogenannter nicht eisbeständiger Kulturpflanzen bei niederen Temperaturen, unter besonderer Berücksichtigung des Einflusses verschiedener Mineralsalzernährung und des N- Stoffwechsels. *Phytopathologische Zeitschrift*, Berlin 1935, Bd. VIII, Heft 4, S. 337-362, Abb. 1-2. Literatur, S. 362.

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